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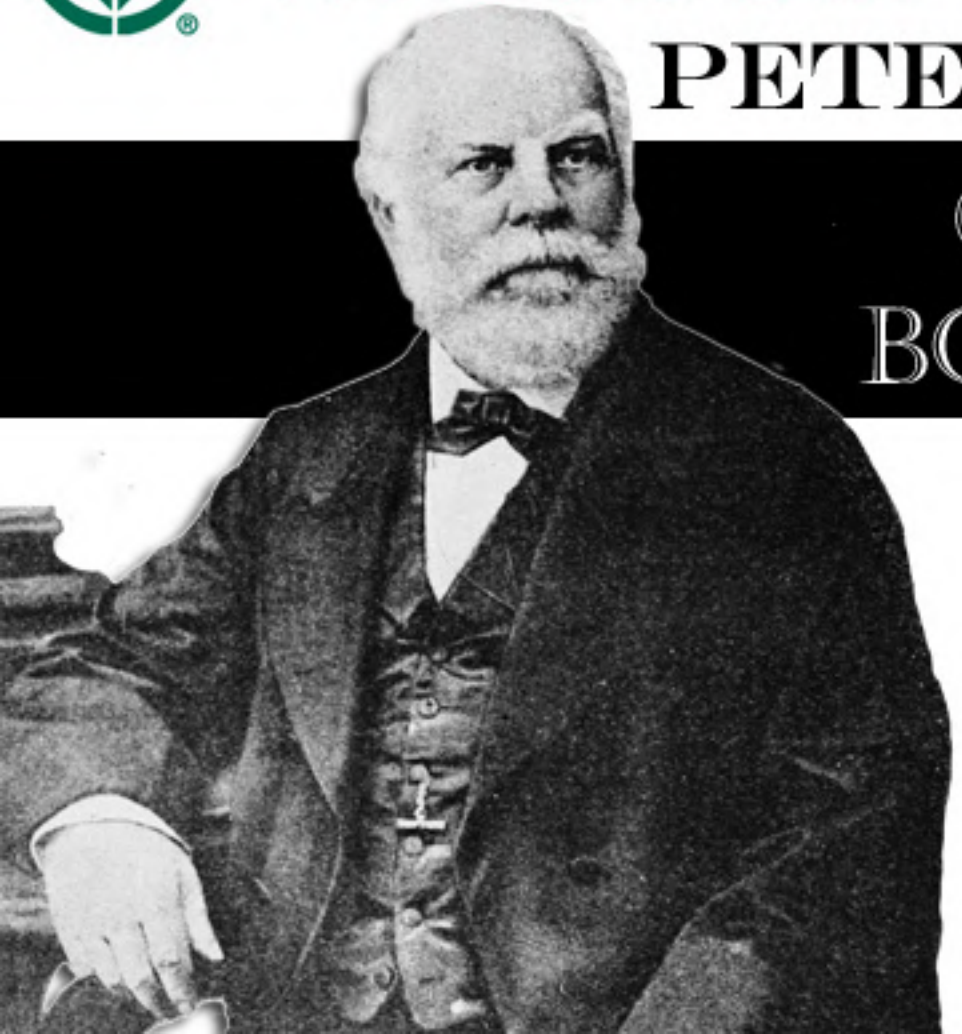

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Quercus bicolor near Rochester often 15 – 20 feet in circumference, and one (now fallen) tree was said to have had at base 32 feet girth. C. S. Sargent 1879

Quercus Michauxii very rare near Newberg on the Hudson, not at all near Rochester C. S. Sargent 1879

Quercus prinus sparing and puny near Rochester "probably its northern limit." Sargent 1879

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rarely equalling or surpassing the leaves, 3-7-jointed, the numerous flowers mostly in 4-6 rows on each side, occupying nearly the whole joint; anthers transverse, opening by 2 pores; pistillate spikes usually opposite, shorter, 3-4 or rarely 5-6-jointed, the flowers fewer, 2-7 on each side of the joint ~~side~~ in not more than 3 series; ~~bracts connate into a short truncate cup~~; berries white, two lines in diameter. — Nutt. Jour. Acad. Phil. n. ser. I. 185. ~~Viscum flavescens, Pursh 114~~. — The following forms pass into each other and into the common glabrate, spatulate-leaved south eastern form, Viscum flavescens, Pursh. 114. —

Var. macrophyllum, with large, broad, often 5-nerved glabrate leaves, 2-2½ inches long, and larger flowers in stout short-jointed spikes. On Populus, Platanus, Fraxinus etc from southern California to Arizona and New Mexico

Var. ~~tomentosum~~ villosum, with small or middle sized orbicular to spatulate ~~leaves~~ permanently pubescent or tomentose leaves and slender

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Hb. A Gray Sept 1879

Quercus coccinea

Bebb 51. (16 is tortoise approaching coccinea)

(6 41) 52 50. 9. 54 (17 ? subulata) 49. 21. 43 12 (8 very much torn)
20 13

46 coccinea approaching rubra

Bourgeau, Winnipeg Valley

Bebb 16. 47 17 ~~6~~ 8 transitions. More = coccinea

Vasey, Ringwood No 2

Bebb no number "separate coccinea" is coccinea, or a

form intermediate between palustris & coccinea

Gabor Tampa Oct 1877

Q. prinoides foliis

Q. myrtifolia

6309

7. P. Torreyana, Parry. A small tree, 20-30 feet high, 12-15 inches in diameter; leaves crowded at the ends of the thick branchlets in the axils of lanceolate strongly fringed bracts, 8-11 inches long, very stout, young sheaths 15-18 lines, old ones 6 lines long; cones ovate × ~~conica~~ 4-4½ inches long, 3½ inches thick, patulous or deflexed on peduncles ~~on peduncles~~ about 1 inch long, the umbo of the scales short and stout or sometimes elongated, acuminate, and inflexed; seeds oval 8-10 lines long, twice as long as the wing, which encloses the seed with a thick rim; cotyledons 13-14. — Bot. Mex. Bound. 210 tab. 58. 59. P. Cophosperma Lindl. Gard. Chron. 1860 p. 46. Parlat. l. c. 391.

Southern coast of California, San Diego to San Pedro, buffeted by the sea winds, and generally crooked and much defaced; the leaves are perhaps the stoutest of any known pine; seeds large and edible.

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++ ++ Leaves in threes.

8. P. ponderosa, Dougl. One of the largest pines known (200-300 feet high, 12-15 feet in diameter) with very thick, redbrown bark, deeply furrowed and split in large plates; leaves on stout branchlets in the axils of strongly fringed, somewhat persistent bracts, very variable in length, 5-9 and even 11 inches long, their sheaths at first 9-10, later 3 lines long; male flowers cylindric, flexuous, 1½-2 inches long, crowded into a short head; involucre of 10-12 bracts; anthers with a large semicircular, scarcely dentate crest; cones oval, 3-4.

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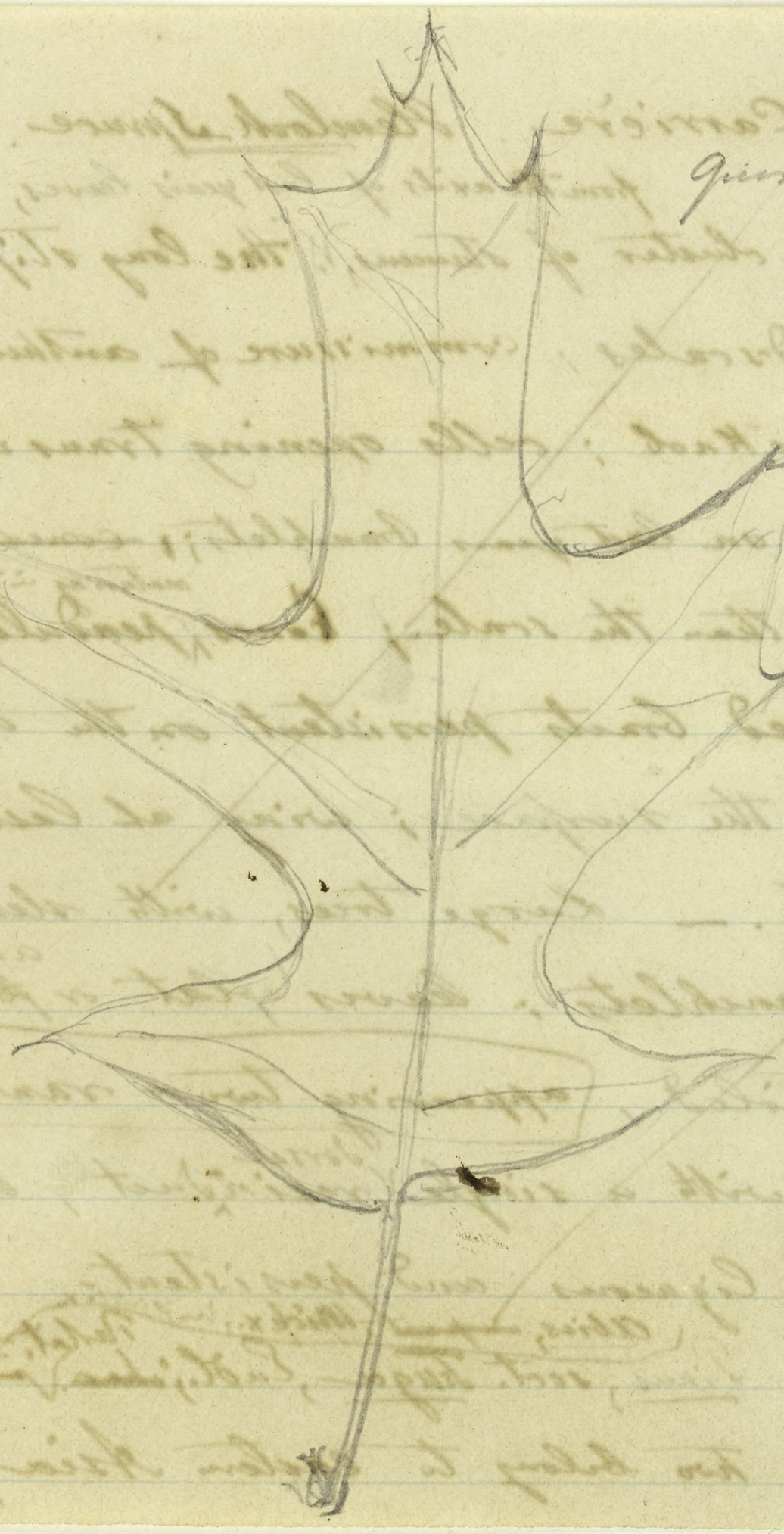
Hb. A Gray Sept 1879



quinum corylina ? ilicifolia

D. W. Robbins,

at North bridge Mass

1865

tree 25-30 feet high

brambles and under side of leaf pubescent.

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9. 8. Tsuga, Carrière. Hemlock Spruce.

~~Flowers~~ Male flowers a sub globose cluster of stamens, from the axils of last year's leaves, the long stipe surrounded by numerous budscales; commissure of anthers terminating in a short spur or knob; cells opening transversely. Female amentes terminal on last years branchlets; ~~cones pendulous~~ bract somewhat shorter than the scale; Cones maturing in the first year, pendulous; scales and short inclosed bracts persistent on the axis. Seeds with resinivesicles on the surface; wing at last breaking off; Cotyledons 3 to 5 or 6. — Large trees, with slender often drooping terminal branchlets; leaves flat or ~~flattish~~ angled, distinct conspicuously petioled, appearing two-ranked, ~~stomatose only below~~, with a single dorsal resin duct, articulated on a prominent and at length ~~at last~~ ligneous and persistent base. —

Conif. 185 Pinus, ~~in part~~, Linn. in part, Tarlat. Abies, ~~in part~~, Mich. x., in part, Tarlat. Pinus, sect. Tsuga, Endl.; ~~Abies~~.

Of the 5 species of this genus two belong to eastern Asia, ~~one~~

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P. Lind.

Quercus tinctoria Wm Bartram Travels, 1791

In upper Georgia on Little River, we enter this sublime forest" --- pag 37. ..."most stately forest trees such as the gigantic Black* Oak (Q. tinctoria)" ---

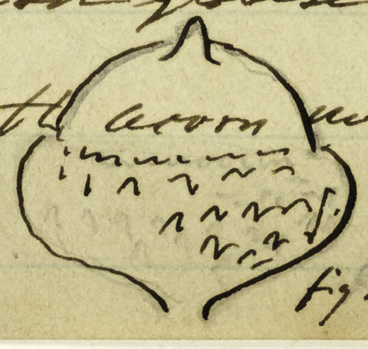
(Note*, Q. tinctoria, the bark of this species of Oak is found to afford a valuable yellow dye. This tree is known by the name of Black Oak in Pennsylvania, New Jersey, New York and New England.

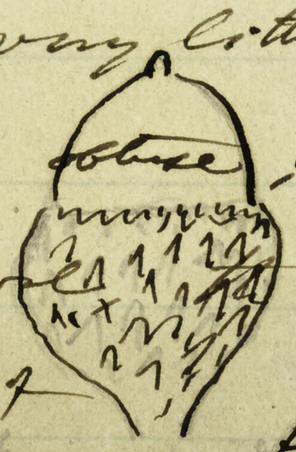
I can assert that many of the Black Oaks measured 8, 9, 10 and 11 feet Diameter 5 feet above the ground, in and ascend perfectly straight -- 40 or 50 feet to the limbs. --- The Tulip-tree, Liquidamber and Beech were equally stately. --

In other places, page. XVI., 335 & 474 Quercus tinctoria is also mentioned,

A. Michaux (père) Histoire des Chênes, 1801 no 13. t. 24 & 25 gives a good figure of our Black oak: "Chêne Quercitron, Great Black Oak, Champlain Black Oak." --- Capsule très-écailleuse, écailles peu adhérentes -- Lac Champlain, Pennsylvanie, haute Montagne des deux Carolines et de la Géorgie. --

The leaf of the figure is very little lobed, the cup broad, and acorn almost globose and obtuse; in fig the cup is a little more tubinate, the acorn more ovoid, leaf larger, and also very shallow lobed.





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Herb A Gray Sept 1879

Quercus Texana Dcne 23. 15. 4h a. 22. 2. 1 ft. 11.
(16 is already approaching coccinea, by the turbinate cups)

Curtis S. Carol

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the whole epidermis, but do not surround the ducts while they are absent in the softer leaves of P. Strobus. The wood is said to be white and soft as in the White Pine.

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2. P. Lambertiana, Dougl. A tree of gigantic dimensions, 150-300 feet high, 10-20 feet in diameter; bark light brown, smoothish, splitting in small sections; leaves 3½-4 inches long, rigid, with 5 or 6 lines of stomata on each of the 3 sides; male flowers oval, ½ inch long, with 10-15 involucral scales, anthers denticulate-crested; cones cylindrical, bright brown, 12-18 inches long, 3-4 inches wide, on pedunckles of 3 inch length; seeds smooth, black, 6 lines long, wing not quite twice as long, widest below the middle, obtuse; cotyledons 13-15. — Lin. Trans. 15. 500. Nutt. Syl. l. c. tab. 114. Newberry l. c. 42. Parlatore l. c. 406.

From the southern boundary throughout the State and northward to the Columbia River in a forest-belt with P. ponderosa and A. concolor ~~at an elevation~~ 3000-5000 and sometimes up to 7 and 8000 feet on both slopes of the Sierras, ~~and~~ in the coast ranges

rubra Gray. Herb Sept 23 1879

Sargent finds usually 3 lobes on each side of leaves of G. rubra but there are often 4 lobes.

Bebb 4. 45. are good normal rubra
" 5 with coccinea leaves
" 44 approaches coccinea also in fruit
" 10 fruit of coccinea, leaves more like rubra
" 11 pedunculed is Michaux's ambigua

Robbins: "the only oak seen by me on Lake Superior" and the acorn longer, smaller, cup tuberculate = Michaux's Ambigua
Hancock 1862

Olney's ambigua for R Isle is tinctoria! and another species is rubra

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§. 1. Strobus. Apophysis of the cone-scales generally thinner, with ~~the~~ ~~&~~ a terminal unarmed umbo; leaves in fives with (in all our species) peripheral ducts, their sheaths loose and deciduous; cones subterminal.

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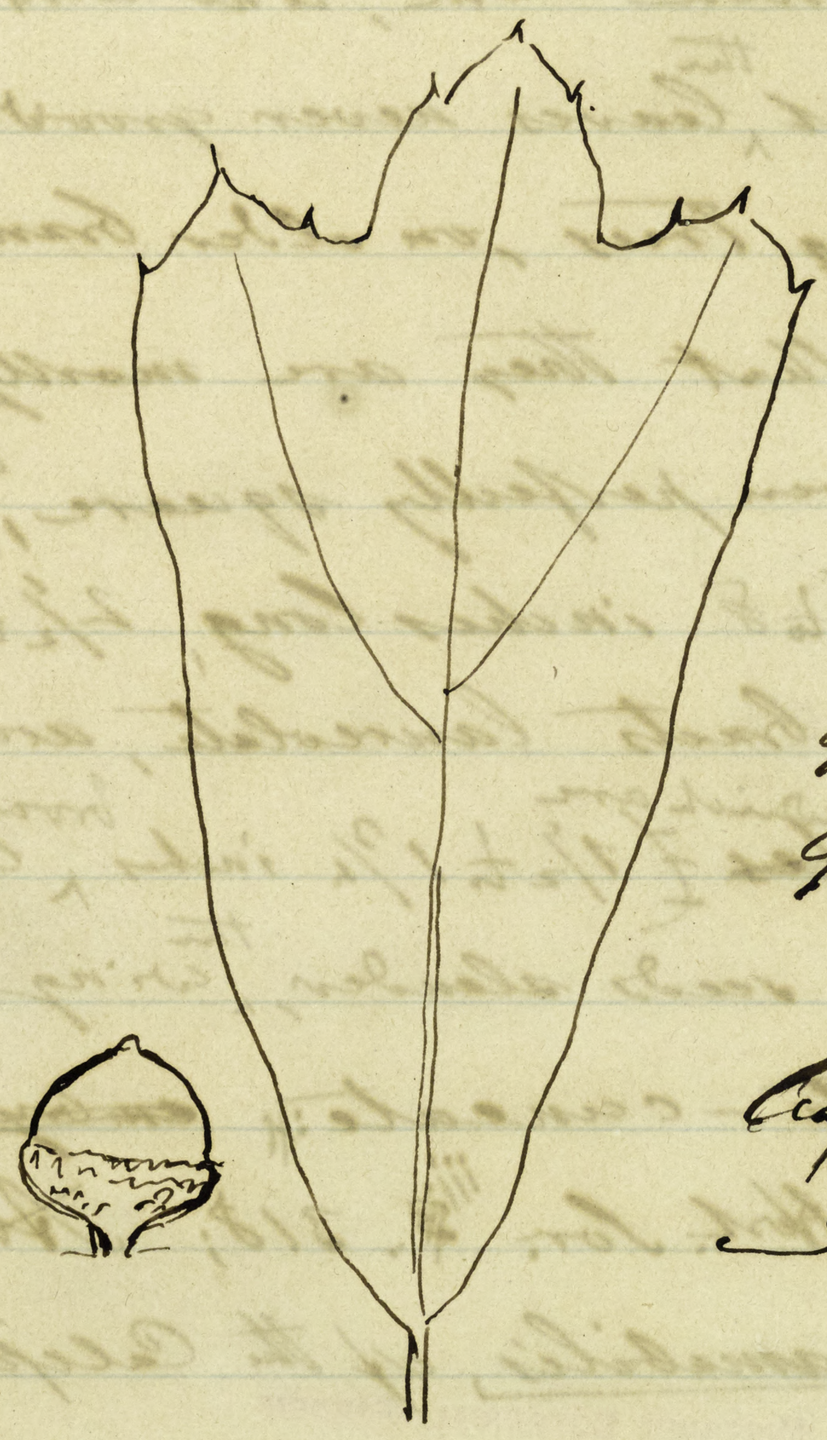
* Wings longer than the seeds; leaves serrulate and (at least the young ones) denticulate at the blunt tip; female aments (long pedicelled erect); cones in the second year pendulous.

1. P. monticola, Dougl. A tree of 60-80 feet in height and up to 3 feet in diameter, with a smoothish, pale bark splitting in square plates; leaves mostly 2 but sometimes as much as 4 inches long, with 2-6 ~~series~~ lines of stomata on the sides and rarely any on the back, teeth very small and distant; male flowers oval, surrounded by 8 involucral scales; anthers knobbed or short-crested; cones cylindrical, slender, 5-8 inches long; yellowish-brown seeds pale, 3-3½ lines long, wings twice as long, widest in the middle, pointed; cotyledons 6-9. — Lamb. Pin. ed. 2. 3. tab 67. Parlat. l. c. 405.

~~2. P. Lambertiana, Dougl.~~ On the higher Sierras between 7 ~~7,000~~ or 8,000 and 10,000 feet alt. from Calaveras and Mount Raymond northward, common in the Shasta region and on the Trinity Mountains and extending to Oregon and Washington Territory. — The western representative of the northeastern White Pine ~~Strobus~~, from which it may be readily distinguished by the longer cones and the stiffer, much less serrulate leaves in which hypoderm - or strengthening cells underlie almost

Quercus nigra — Northern Chinese, ~~stalk~~ 22 with very large scarcely lobed leaves and very short petioles 4–5 lines long. The little specimen on the side, fig 2, has petioles 8–9 l. long! (spring specimen, young)



Quercus trilobata A. Michaux.

50–60 feet high. from New England to Georgia

a petiole much longer than in Q. nigra" (in figure very short)

leaves below tomentose

Q. falcata of same height, from Virginia to Florida

Q. nigra is said to be only 30 feet high.

leaf of young shoot very long, 9–10 inches, and 7–9 lobed, lobes lanceolate.

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++ Bracts enclosed.

5. Abies magnifica, Murray. Similar to the last, even over 200 feet high, and 8 to 10 feet in diameter, with the same kind of thick redbrown bark, and with similar very rigid foliage, but the leaves never grooved nor notched even in the young trees, on older branches mostly shorter and thicker, so that they are mostly only a fourth wider than thick, or even perfectly square, and often only ~~1/2 - 3/4 inch~~ 6 to 9 lines long; cones 6 to 8 inches long, 2 1/2 to 3/4 inches thick, purplish brown; bracts lanceolate, acuminate, shorter than the very wide ~~scales~~ scales, which are 1 1/2 to 1 3/4 inches broad by scarcely an inch high; ~~scales~~, seeds slender, the wing broader, very obliquely obovate-cuneate; ~~embryo~~ cotyledons 8 to 10. — Proc. Hort. Soc. B. 318; Abies amat Engelm. l. c. 601. Abies amabilis, of the Californian botanists.

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The Red Fir of the Sierras is not rare in the higher mountains at an altitude of 7 to 10,000 feet, ~~alt~~ but forms no forests by itself. + Very similar to the last, but easily distinguished by the enclosed bracts; forms, however, are said to occur (Mount Silliman, Brewer) with exsert bracts, and further investigation must show whether the slight differences in the character of the leaves, scales and seeds will enable us to keep both species separate.

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Michaux. Chênes. 1801 — Cambridge Sept 1879

tab. not fig

1. Q. obtusiloba * (quotes Q. stellata, Wangenh. good figure of fruit f. 1
branch but very bad of male and female flowers

2. Q. macrocarpa * good figure (f. 2 & 3)

3 Q. lyrata * good figure (f. 4

4 Q. alba Lin a pinnatifid (f. 5) with deeply lobed leaves a pedunculate fruit

5 Q. prinus Lin 1, palustris fig 6 i Michaux ii " in shady woods of the lower Carolinas Georgia and Florida

2. Monticola fig 7

3 acuminata fig 8 in all fertile regions west of the Alleghanies

4 prinoides fig 9 5, a tomentose variety in a wide, humide plain in Illinois abundant — only a leaf figured which is plainly Q. bicolor.

6. Q. virens Ait. fig 10 & 11. very good — widely fruit annual, though though in the introductory table it is called "biennis"

7 Q. phellos Lin fig 12 good

fig 13 Q. phellos prinoides is our shrub, but with biennial fruit (as in sylva)

Q. Ph. acuminata perhaps the low form of virens, figured only leaf branch

8. Q. cinerea * fig 14 Good

9. Q. imbricaria * fig 15. 16 good. Young plants with entire narrower leaves

10. Q. laurifolia * fig 17. good — leaves broad

fig 18 laurifolia hybrida approaches aquatica and is probably a form of it

11 Q. aquatica Cabiri fig 19 & 20. 21 Good
Bibl. & Walter incorr. quoted —

over

12 Q. nigra Catesb Q. nigra S. Lin (Chêne noir) Q. nigra Wangenh. fig 22 & 23 good

13 Q. tinctoria Bartr Q. nigra Marshall. fig 24. 25. — good. leaves very entire — i.e. slightly lobed — see fuller notes. 60-80 feet high.

14 Q. bicoloba * "Swamp Black Oak" fig. 26 from New England to Georgia — 50-60 feet high — petioles ½ inch long; fruit much smaller th the figure of Q. nigra, cup shallower. leaf of a very short very large (as long as this paper) obt q lobed, lobes laceration — [evidently a very nigra!]

15 Q. Banisteri * fig. 27. good. Q. falcata

16. Q. falcata Mich fig 28 from Virginia to Florida — good fig.

17. Q. Catesbaei * fig 19. 20 good.

18 Q. coccinea Wangenh fig 21. 22. Virginia & Carolina, * Mountains of, rare northward., 75-80 feet high. — Michaux compares it with Q. rubra but not at all with tinctoria — so that Wangenheim distinguishes them well and gives a good figure of the leaves but acorns generally bad. Michaux figure has an acorn with very large scales, and rather coarse leaf, which may belong both to tinctoria.

19 Q. palustris Duhoi fig 23. 24 good

20 Q. rubra L. tab tab 25-26 (commonly marked 35-36) Canada to Georgia and Ohio very good. Canada, 28 miles north of Quebec

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